IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jingnan Huang et al.

Application No.: 10/527,327	Confirmation No.: 3523
Filed: October 27, 2005	Art Unit: 2457
For: Method for connecting devices in dynamic family networking	Examiner: H. S. Kim

AMENDMENT AFTER FINAL ACTION UNDER 37 C.F.R. 1.116

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

INTRODUCTORY COMMENTS

In response to the Office Action dated October 23, 2008, finally rejecting claims 1-14, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 8 of this paper.

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FEE CALCULATION

Any additional fee required has been calculated as follows:

	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	Additional Fee
Total		− 20* =		X	
Independent		− 3** =		X	
First presentation of Multiple Dependent Claim(s) (if applicable)					
				TOTAL	

*not less than 20   ** not less than 3

No additional fee is required.

In the event a fee is required or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-2215.

CONTINGENT EXTENSION REQUEST

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 CFR 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 CFR 1.135. The fee under 37 CFR 1.17 should be charged to our Deposit Account No. 50-2215.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of peer-to-peer connecting devices when implementing dynamic networking in a home network, including a connection creating method and a connection disconnecting method of peer-to-peer devices, which is characterized in that:

a connection configuration is performed to all devices requiring a peer-to-peer connection, which includes configuring account information containing a user name and a password for allowing connections and a maximum parallel connection number allowed by a device:

said connection creating method of peer-to-peer devices includes the steps of:

a.   sending a device connecting request from a connection initiating device in the home network to a connection target device in the network;

b.   generating a connection challenge value randomly by the connection target device and sending it to the connection initiating device;

c.   generating a connection reply value according to the received connection challenge value by the connection initiating device and sending it to the connection target device;

d.   sending a connection response message from the connection target device to the connection initiating device according to the connection reply value; and

e.   judging a result of connection according to the connection response message by the connection initiating device, if the connection response message includes information on a successful connecting result, establishing a peer-to-peer connection between the connection initiating device and the connection target device;

said connection disconnecting method of peer-to-peer devices includes the steps of:

f. sending a connection disconnecting message from the connection initiating device to the connection target device or from the connection target device to the connection initiating device;

g. determining, by the connection target device or the connection initiating device which receives the connection disconnecting message, that the connection has been disconnected,

wherein, in said step b, said connection allowed further includes the steps of: judging whether the number of connection initiating devices currently connected with the connection target device has reached the upper limit of the allowed connection number; and judging whether the user information of the connection initiating device is in the connection target device;

if the number of devices connected with the connection target device has already reached the upper limit of the allowed number of connected devices, then in the step e, the connection target device sends a connection response message whose connecting result is overload to the connection initiating device; if there is no user information of the connection initiating device present in the connection target device, then in the step e, the connection target device sends a connection response message whose connecting result is denial of access to the connection initiating device.

2. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said connection setting to devices is a direct setting through a human-machine interface on devices or a remote setting through other devices having human-machine interfaces.

3. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said connection initiating

device is a service providing device or a service utilizing device, and said connection target device is a service utilizing device or a service providing device.

4. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein with respect to the device connecting request in said step a, the message fields include type of message, serial number of message, user name and serial number of connection request.

5.-6. (Canceled)

7. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein the connection challenge value sent in said step b includes type of message, serial number of message, serial number of connection response message, connecting result, authenticating algorithm identifier and challenge value.

8. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein the message of challenge reply value sent in said step c includes type of message, serial number of message, serial number of connection request and the reply value constituted by a reply character string.

9. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein with respect to the connection response message in said step d, the message fields include type of message 2, serial number of message, serial number of connection response message and connecting result.

10. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said step d further includes the steps of: if the connection target device sends a response message containing information about successful connection to the connection initiating device, then the connection

target device and the connection initiating device increasing the number of currently connected devices by one.

11. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein in said step b, said connection target device also saves the connection challenge value; in said step c, said connection initiating device retrieves key information corresponding to the connection challenge value and generates said connection reply value together with the connection challenge value; in said step d, the connection target device judges validity of the connection reply value according to the saved connection challenge value and the key corresponding to this connection challenge value, and when it is valid, sends a connection response message about success of connection to the connection initiating device, and when it is invalid, sends a connection response message about denial of access to the connection initiating device.

12. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein after said step e, a transmission key is generated between the connection initiating device and the connection target device which have established a peer-to-peer connection therebetween in accordance with an encryption method defined in a security mechanism, and is used to transmit subsequent data.

13. (Original) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein with respect to the connection disconnecting request message in said step f, the message fields include type of message, serial number of message and reason for disconnecting connection.

14. (Previously Presented) The method of peer-to-peer connecting devices when implementing dynamic networking in a home network according to claim 1, wherein said steps f and g further include the steps of: while the connection target device and the connection

initiating device sends and receives the connection disconnecting request, the number of currently connected devices is decreased by one.

REMARKS

Claims 1-4 and 7-14 are pending in this application with all claims rejected. By this Amendment, claim 1 has been amended and claims 5 and 6 have been canceled without prejudice. In light of the amendments and remarks set forth below, Applicants respectfully submit that each of the pending claims is in immediate condition for allowance.

As an initial matter, Applicants appreciatively acknowledge the Examiner's acceptance of the amended drawing of Figure 1 as well as the withdrawal of the rejection of claims 1, 6 and 14 under 35 U.S.C. § 112, second paragraph.

Claims 1-14, however, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Napster Client/Server protocol in view of Swift et al. (U.S. Patent No. 6,377,691). Applicants respectfully submit that the features recited in amended claim 1 are neither taught nor suggest by the prior art of record.

In particular, amended claim 1 provides that if the number of devices that want to establish a connection with the target device reaches an upper limit, the request for establishing a connection will be denied. As a result, the burden of the device can be lowered. On the other hand, the step of judging whether the user information of the connection initiating device is in the connection target device and then performing corresponding measures in according with the results can limit the devices that want to establish a connection with the target device into a predetermined range. For example, only those devices that have recorded the user information of the initiating device can be allowed to establish a connection with the target device.

To justify the rejection of now-canceled claims 5 and 6 (which recited the subject matter discussed above), the Office Action has cited page 15, message 619 of the Napster Client/Server protocol. This message, however, discloses limiting the number of *downloads* from a particular client. Once the upper limit of downloads is reached, the client can send message 619 to indicate that the limit has been reached and there can be no more simultaneous

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downloads. In contrast, amended independent claim 1 requires a limit for the number of *connection initiating devices* that are connected with the connection target device, not a limit for a number of simultaneous downloads. As such, the Napster Client/Server protocol fails to disclose or suggest the explicitly recited limitation of amended claim 1. Applicants further note that Swift is cited for other features of independent claim 1, but fails to make up for the deficiencies of the primary reference, the Napster Client/Server protocol.

Accordingly, for at least these reasons, Applicants respectfully submit that amended independent claim 1 is patentable over the prior art of record. Claims 2-4 and 7-14 are dependent claims and include all of the limitations found in claim 1. These dependent claims have further limitations which, in combination with the limitations of claim 1, are neither disclosed nor suggested in the art of record. Therefore, all the dependant claims are also allowable.

In view of the above, Applicants respectfully assert that each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If the Examiner believes an interview would be of assistance, the Examiner is welcome to contact the undersigned at the number listed below.

Dated: January 23, 2009   Respectfully submitted,

By _____
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